

INFLUENZA 2003–2004

Influenza, commonly referred to as the flu, is one of the most severe respiratory illnesses, infecting up to 20% of the world's population, causing up to 5 million cases of severe illness and at least 250,000–500,000 deaths each year worldwide. Influenza viruses are spread from person-to-person principally through the coughing and sneezing of infected people. The most contagious period is during the first 3 days of illness; however, spreading of the virus can occur before symptoms begin and for up to a week or longer after symptoms develop.

Influenza/pneumonia is the sixth leading cause of death in the US, and elderly people and those with chronic medical conditions are at greatest risk. Vaccination *before* the flu season of people at highest risk of complications currently is the single most effective measure for preventing or reducing the severity of the flu in such individuals and therefore is the principal measure for controlling the impact of the disease.

Uncomplicated flu illness is characterized by the abrupt onset of fever, bodyaches, headache, severe fatigue, sore throat, runny nose, and nonproductive cough. The incubation period for the flu is 1–4 days (average: 2 days). The flu typically resolves after several days in most people, but cough and fatigue can persist for 2 or more weeks. In some people, the flu can make underlying medical conditions (e.g., heart or lung diseases) worse, lead to secondary bacterial pneumonia or primary influenza viral pneumonia, or occur as part of a coinfection with other germs. The risks for complications, hospitalizations, and death from the flu are increased in geriatric adults 65 years of age or older, very young children, and people of any age with certain underlying medical conditions. Even in people not at such increased risk for complications, the flu can result in absenteeism, disruption in work and provided services (e.g., in health-care providers, in others providing essential community services), and decreased productivity as well as increased health-care costs.

Annual vaccination against influenza virus with inactivated influenza virus vaccine is strongly recommended by the US Public Health Service Advisory Committee on Immunization Practices (ACIP) for individuals 6 months of age or older who, because of their age or underlying medical condition, are at increased risk of lower respiratory tract complications and death following the flu, this includes adults 50 years of age or older; residents of nursing homes and other chronic-care facilities that house people of any age who have chronic medical conditions; children and adolescents 6 months to 18 years of age receiving long-term aspirin therapy who may be at risk of developing Reye's syndrome after influenza infection; women who will be in their second or third trimester of pregnancy during the flu season; and adults and children with chronic disorders of the heart, lung, and/or kidneys, metabolic diseases such as diabetes mellitus, blood disorders,

and/or compromised immune function. In addition to these high-priority groups, the ACIP encourages vaccination of healthy children 6–23 months of age (when feasible) and their household and out-of-home caretakers since these children are at increased risk for influenza-related hospitalization. The ACIP and others state that the vaccine (depending on availability) should be administered to anyone in the general population who wishes to reduce their likelihood of becoming ill with the flu, even if that person is not at increased risk for complications associated with the flu. Students and others in institutional settings, such as those living in dormitories, as well as those providing essential community services also should be encouraged to receive the vaccine so that disruption of routine activities can be minimized during epidemics. Vaccination also is recommended for anyone at high-risk of influenza complications, who is going to travel to areas where the flu is likely to be circulating.

Current evidence suggests that influenza vaccination can effectively reduce the rate of ear infections and the use of antibiotics in children. Children with a history of recurrent ear infections may especially benefit from annual influenza vaccination.

Although annual vaccination with flu vaccine currently is the primary means of preventing influenza, flu vaccine is not effective against all possible strains of influenza virus and provides protection only against those strains of virus from which the vaccine is prepared as well as against closely related strains. Following administration of flu vaccine, a protective effect generally is achieved in 70–90% of healthy adults younger than 65 years of age who receive the vaccine, usually within 10–14 days.

The ACIP states that the best time to vaccinate against the flu in the US usually is during October and November. Annual vaccination against influenza virus should be completed before the beginning of the flu season. Administering flu vaccine before October usually should be avoided. Although flu vaccine preferably should be administered before the flu season, the vaccine should continue to be offered to both children and adults up to and even after influenza virus activity begins in the local community. Therefore, the ACIP and others state that flu vaccine should be offered to unvaccinated individuals (especially those at high risk of influenza complications and to health-care personnel) through December and later as long as the vaccine is still available.

In addition to the flu vaccine, there are antiviral medications which your medical provider may prescribe for control and prevention of the flu. However, these medications should not be considered a substitute for immunization with flu vaccine. Two medications, Tamiflu® and Relenza®, have been approximately 79–84% effective in preventing the flu.

The most frequent adverse effects of flu vaccine are local effects. Soreness at the injection site has been observed in 10–70% of those receiving flu vaccine. Other adverse local effects include pain or tenderness, redness, and a lump. These local reactions generally are mild to moderate in severity and persist up to 2 days, but rarely interfere with normal activities. Acetaminophen (Tylenol®) may reduce the incidence of local reactions.

Because inactivated influenza virus vaccines contain only inactivated influenza viruses, they cannot cause the flu. Cases of respiratory illness that occur following administration of flu vaccine are coincidental and unrelated to influenza vaccination.

The major adverse effects of flu vaccines are systemic reactions, including fever, fatigue, bodyaches, and other systemic manifestations, which generally begin 6–12 hours after administration of the vaccine and last for 1 or 2 days. Such systemic reactions occur rarely and usually are attributed to the inactivated influenza virus contained in the vaccine and occur most frequently in young children and other individuals who have not been exposed previously to the flu virus particles contained in the vaccine.

Immediate, presumably allergic reactions to flu vaccine, including itchy welts, generalized swelling, complete collapse of the cardiovascular system, and asthma, occur rarely. The majority of such reactions most likely are related to egg protein that may be present in very small amounts in the vaccine. Flu vaccines should ***not*** be administered to people with a history of immediate allergic reaction to a previous dose, to chicken eggs or egg products, or to other ingredients in the vaccine without first consulting a medical provider and conducting an appropriate allergy evaluation. There is no evidence that people with allergies to chickens or feathers are at increased risk of allergic reactions to the vaccines.

Immunization of people with an acute illness and a temperature of 100.4° F or greater generally should be postponed until they have recovered.

The ACIP and others state that vaccination of pregnant women should follow the same guidelines as those for other people, and that vaccination before the flu season (regardless of the stage of pregnancy) is recommended in pregnant women who have other medical conditions that increase their risk for complications from the flu. In addition, the ACIP and others recommend that flu vaccination be routinely administered to all pregnant women, including those without underlying influenza risk factors, if they will be in their second or third trimester during the flu season since such women appear to be at increased risk of serious influenza complications. Breast-feeding generally is not a barrier to getting flu vaccine; always check with your medical provider before getting flu vaccine if you are a nursing mother.

Flu vaccine may be given at the same time as pneumococcal vaccine without a decrease in effectiveness or an increase in side-effects to either vaccine.

In an effort to lessen the confusion in future outbreaks of Severe Acute Respiratory Syndrome (SARS), the World Health Organization (WHO) is urging medical authorities worldwide to participate in an influenza vaccination campaign. The symptoms of the flu are often confused with those of SARS, and immunizing individuals against the flu will reduce the number of cases of the flu and make it easier for clinicians to decide whether someone is suffering from the flu or SARS. The influenza vaccine does ***not*** provide protection from SARS.

A newly approved influenza vaccine is available for the 2003–2004 flu season. This unique vaccine is administered intranasally (by way of the nose). It is indicated for use in healthy children and adolescents 5–17 years of age and healthy adults 18–49 years of age. In studies conducted in healthy children and adults, the vaccine provided protection against the flu in about 85–87% of recipients.